

CLAIMS

What is claimed is:

1. An air suspension system for a vehicle comprising:
5 a longitudinal member extending generally lengthways of the vehicle and mounted to the vehicle for pivotal movement about an axis generally transverse of the vehicle;
a locating plate attached to the vehicle; and
an air spring disposed between said longitudinal member and said locating
10 plate, pivotal movement of said longitudinal member about said axis toward said vehicle moving said air spring into contact with said locating plate and unloaded pivotal movement of said longitudinal member about said axis away from said vehicle moving said air spring out of contact with said locating plate.
- 15 2. The system as recited in claim 1, wherein said air spring is attached to said longitudinal member.
3. The system as recited in claim 1, wherein said locating plate aligns said air
spring upon pivotal movement of said longitudinal member about said axis toward said
20 vehicle.
4. The system as recited in claim 1, wherein said locating plate includes a lip
about a perimeter of said locating plate.
- 25 5. The system as recited in claim 4, wherein said lip has an inner dimension larger than an outer dimension of an upper portion of said air spring which is received in said lip.

6. The system as recited in claim 5, further having a protective skirt attached to said locating plate which defines a lip.

7. The system as recited in claim 5, wherein said upper portion of air spring
5 is a plate attached to a top of said air spring.

8. An air suspension system for a vehicle comprising:
a longitudinal member extending generally lengthways of a vehicle and
mounted to the vehicle for pivotal movement about an axis generally transverse of the
10 vehicle;

an axle assembly mounted to said longitudinal member;

a damper disposed between said longitudinal member and the vehicle, said
damper providing a dampening force for said axle assembly;

a locating plate attached to the vehicle; and

15 an air spring having an air cell and a piston, said air spring attached to said
longitudinal member and disposed between said longitudinal member and said
locating plate, pivotal movement of said longitudinal member about said axis toward
said vehicle moving said air spring into contact with said locating plate and unloaded
pivotal movement of said longitudinal member about said axis away from said vehicle
20 moving said air spring out of contact with said locating plate.

9. The system as recited in claim 8, wherein said locating plate has a frustum
conical outer lip.

25 10. The system as recited in claim 8, wherein said lip has an inner dimension
larger than an outer dimension of an upper portion of said air spring which is received in
said lip.

11. The system as recited in claim 10, further comprising a protective skirt
attached to said locating plate.

12. The system as recited in claim 8, further comprising a gas feed extending
5 through said piston.

13. The system as recited in claim 12, wherein a bottom of said piston is
attached to said longitudinal member and said air cell is attached to a top of said piston,
said gas feed extending along said longitudinal member and entering said bottom of said
10 piston.

14. An air suspension system for a vehicle comprising:
a longitudinal member extending generally lengthways of a vehicle and
mounted to the vehicle for pivotal movement about an axis generally transverse of the
vehicle;
- 5 an axle assembly mounted to said longitudinal member;
a damper disposed between said longitudinal member and the vehicle, said
damper providing a dampening force for said axle assembly;
a locating plate attached to the vehicle, said locating plate having a frustum
conical configuration;
- 10 a protective skirt attached to said locating plate; and
an air spring disposed between said longitudinal member and said locating plate,
said air spring having a air cell and a piston having a gas feed, a bottom of said piston
attached to said longitudinal member and a top of said piston attached to said rubber cell,
said gas feed extending along said longitudinal member and entering said bottom of said
15 piston, pivotal movement of said longitudinal member about said axis toward said vehicle
moving said air spring into contact with said locating plate, said locating plate laterally
locating said air cell with said locating plate, unloaded pivotal movement of said
longitudinal member about said axis away from said vehicle moving said air cell out of
contact with said locating plate.
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15. The system as recited in claim 14, wherein said gas feed includes a
coupling, said coupling retaining said air cell to said piston.
16. The system as recited in claim 14, wherein said lip has an inner dimension
25 larger than an outer dimension of an upper portion of said air spring which is received in
said lip.